### **COPY OF PAPERS** ORIGINALLY FILED

PTO/SB/08B (10-01) Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE rithe Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid CAMB control number Substitute ( 1449B/PTO Complete if Known **Application Number** 09/831,958 **INFORMATION DISCLOSURE** Filing Date November 17, 1999 STATEMENT BY APPLICANT First Named Inventor Phillips, Donald A. AUG 0 2 2002 1651 Art Unit TECH CENTER 1600/29( (use as many sheets as necessary) Examiner Name L. Blaine Lankford Sheet Attorney Docket Number 02307Z-090130US

		Document Number				
ixaminer	Cite No.	Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Retevant Passages or Retevant Figures Appear	
WU	A	4,436,547	03/13/1984	Sampson, et al.		
1	В	4,704,161	11/03/1987	White, et al.	5505	
	С	4,789,436	12/06/1988	Greenbaum E.	RECEI	$N \vdash D$
	D	5,116,406	05/26/1992	Hyeon		~ <del>~ ~</del>
$\neg \sqcap$	E	5,298,483	03/29/1994	Yokoyama et al.	OCT 0 3	2002
$\neg$	F	5,403,583	04/04/1995	Liu et al		2002
$\neg$	G	5,415,672	05/16/1995	Fahey et al.		
	Н	5,597,400	01/28/1997	Nonomura, et al.	TECH CENTER	HANN/20N
	- 1	5,797,976	08/25/1998	Yamashita	I WOIT OLITICIT	000/200
7	J	5,919,448	07/06/1999	Maekawa et al.		
	K	5,925,538	07/20/1999	Perkins et al.		
	L	5,932,701	08/03/1999	Black et al.		
.\ /	M	5,935,571	08/10/1999	Aino et al.		
	N	5,958,104	09/28/1999	Nonomura et al.		

			F	DREIGN PA	TENT DOCUME	NTS		
Examiner Initials*	Cite No.'	Foreign Patent Document			Name of Patentee or	Pages, Columns, Lines,		
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>t</sup> (# known)	Publication Date MM-DD-YYYY	Applicant of Cited  Document	Where Relevant Passages or Relevant Figures Appear	Τ <sup>6</sup>
17/	0	JP	01086822		03/31/89			
7	Р	JP	03109304		05/09/91			
	٥	JP	04166017		06/11/92			
	R	JP	08143406		11/16/94			
	S	JP	60115501		06/22/85			
17	T	wo	96/21737	A1	07/18/96			
<b>N</b>	U	wo	97/01572	A1	01/16/97			

	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials *	Cite No.¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2			
M	v	BAREA et al., "Impact on Arbuscular Mycorrhiza Formation of <i>Pseudomonas</i> Strains Used as Inoculants for Biocontrol of Soil-Bome Fungal Plant Pathogens"; <i>Applied and Environmental Microbiology</i> , 64(6):2304-2307 (1998)				

Examiner Signature	CANAGORO	Date Considered	2/2/5	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. SF 1361100 v1

<sup>1</sup> Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.

Sheet

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Complete if Known **Application Number** 09/831,958 EIVED Filing Date Nov mber 17, 1999 First Named Inventor Phillips, Donald A. Art Unit 1651

2 2002

TECH CENTER 1600/2900 Examiner Name L. Blaine Lankford 02307Z-090130US Attorney Docket Number

Examiner	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
m	w	BOADBENT et al., "C-Acetylphloroglucinols From Pseudomonas Fluorescens"; Phytochemistry, 15:1785 (1976)	
	x	BRIMECOMBE et al., "Effect of genetically modified <i>Pseudomonas fluorescens</i> strains on the uptake of nitrogen by pea from <sup>15</sup> N enriched organic residues"; <i>Letters in Applied Microbiology</i> , 26:155-160 (1998)	
	Y	BROWN, M.E., "Plant Growth Substances Produced by Micro-organisms of Soil and Rhizosphere"; J. Appl. Bact., 35:443-451 (1972)	
	z	COQUARD et al., "Molecular cloning and characterisation of the <i>ribC</i> gene from <i>Bacillus</i> subtilis: a point mutation in <i>ribC</i> results in riboflavin overproduction"; <i>Mol. Gen. Genet.</i> , 254:81-84 (1997)	
	AA	DECKERT, Gerard et al., "The complete genome of the hyperthermophilic bacterium Aquifex aeolicus"; Nature, 392:353-358 (March 1998)	
	AB	DEJONG, Ted M. et al., "Nitrogen Stress and Apparent Photosynthesis in Symbiotically Grown Pisum sativum L."; Plant Physiol, 68:309-313 (1981)	
	AC	EBERHARDT et al., "Cloning, sequencing, mapping and hyperexpression of the ribC gene coding for riboflavin synthase of Escherichia coli"; Eur. J. Biochem., 242:712-719 (1996)	
	AD	FENTON et al., "Exploitation of Gene(s) Involved in 2,4-Diacetylphloroglucinol Biosynthesis to Confer a New Biocontrol Capability to a <i>Pseudomonas</i> Strain"; <i>Applied and Environmental Microbiology</i> , 58(12):3873-3878 (Dec. 1992)	
	AE	FLEISCHMANN.et al., "Whole-Genome Random Sequencing and Assembly of Haemophilus influenzae Rd"; Science, 269:496-498 (July 1995)	
	AF	GENDY et al., "The response of growth, nodulation, and yield of soybean plants treated with riboflavin and nicotinic acid"; Beitr.trop.Landwirtsch.Vet.med., 30 H.3:271-281 (1992)	
	AG	GRANT, R. and GRANT, C. Eds., Grant & Hackh's Chemical Dictionary, Fifth Edition (1987)	
	АН	GROCHOWSKA, "Chromatographic Degradation of Phloridzin"; Plant Physiol., 41:432-436 (1966)	
U	Al	HANSEN, G. K., Physiol. Plant, 39(4):275-279 (1977)	

Examiner Signature	LANYSORD	Date Considered	2/24/	5
	·			7

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

SF 1361100 v1

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant. and not considered, include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. 2 Applicant is to place a check mark here il English language Translation is attached.

JUL '2 5 2002

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

	(USB BS	many sne	815 8S	necessary
Sheet	3		of	5

- · ·	Complete If Known		١
Application Number	09/831,958		j ·
Filing Date	Nov mb r 17, 1999		EIVED
First Named Inventor	Phillips, Donald A.		+1 4 L
Art Unit	1651	AUG 0	2 2007
Examiner Name	L. Blaine Lankford		
Attorney Docket Number	023077-090130US	TECH CENTE	'R 1600/2001

Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2
ps	2	JONES, O.P., "Effect of phloridzin and phloroglucinol on apple shoots"; Nature, 262:592 (July 1976)	_
	AK	KANEKO et al., "Sequence Analysis of the Genome of the Unicellular Cyanobacterium Synechocystis sp. Strain PCC6803. II. Sequence Determination of the Entire Genome and Assignment of Potential Protein-coding Regions"; DNA Reasearch, 3:109-136 (1996)	
	AL	KEEL et al., "Pseudomonads as Antagonists of Plant Pathogens in the Rhizosphere: Role of the Antibiotic 2,4-Diacetylphloroglucinol in the Suppression of Black Root Rot of Tobacco"; Symbiosis, 9:327-341 (1990)	
	AM	LAPIDUS et al., "Sequencing and functional annotation of the <i>Bacillus subtilis</i> genes in the 200 kb rmB-dnaB region"; <i>Microbiology</i> , 143:3431-3441 (1997)	
	AN	LEE et al, "The <u>Lux</u> Genes in <u>Photobacterium Leiognathi</u> are Closely Linke: With Genes Corresponding in Sequence to Riboflavin Synthesis Genes"; 186(2): 690-697 (1992)	
	AO	LEE et al., "Riboflavin Synthesis Genes Are Linked with the <i>lux</i> Operon of <i>Firelobacterium</i> phosphoreum"; Journal of Bacteriology, 176(7):2100-2104 (April 1994)	
	AP	LUGTENBERG et al., "Microbial stimulation of plant growth and protection from disease"; Current Opinion in Biotechnology, 2:457-464 (1991)	
	AQ	MARRÉ et al., "Azione Di Stimolo Della Florizina Sulla Fotosintesi E Sulla Fotolisi Da Parte Di Cloroplasti Isolati"; <i>Nuovo Giomale Botanico Italiano</i> , LXII:566, (1955)	
	AR	NASEBY et al., "Impact of wild-type and genetically modified <i>Pseudomonas fluorescens</i> on soil enzyme activities and microbial population structure in the rhizosphere of pea"; <i>Molecular Ecology</i> , 7:617-625 (1998)	
	AS	NELSON et al., "Evidence for lateral gene transfer between Archaea and Bacteria from genome sequence of <i>Thermotoga maritima</i> "; <i>Nature</i> , 399:323-329 (May 1999)	
	AT	OERTLI, J.J., "Exogenous application of vitamins as regulators for growth and development of plants – a review"; <i>Z. Pflanzenernahr. Bodenk.</i> , 150:375-391 (1987)	
	AU	RAAIJMAKERS et al., "Natural Plant Protection by 2,4-Diacetylphloroglucinol-Producing Pseudomonas spp. in Take-All Decline Soils"; Molecular Plant-Microbe Interactions, 11(2):144-152 (1998)	
V	AV	RAO et al., "Reversal of Chloramphenicol Inhibited Growth By Riboflavin in Green Gram (Phaseolus Radiatus L.)"; Current Science, 44(11):399-400 (June 1975)	
Examiner Signature		LA-Millomo Date Considered 2/24/6	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered, include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Petent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

<sup>&#</sup>x27; Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation la attached.



### COPY OF PAPERS ORIGINALLY FILED

PTO/SB/08B (10-01) Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid CMB control number

e for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known EIVEC **Application Number** 09/831,958 Filing Date November 17, 1999 AUG 0 2 2002 First Named Inventor Phillips, Donald A. Art Unit 1651 TECH CENTER 1600/2901 **Examiner Name** L. Blaine Lankford

(use as many sheets as necessary)

Sheet

Attorney Docket Number 02307Z-090130US

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS		
Examiner	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T 2	HOST I
113	AW	RAO et al., *16 Incorporation in Chloramphenicol Inhibited Growth And Its Reversal By Riboflavin in Green Gram*; Current Science, 44(22):818 (1975)		
	AX	RAO, P. Gopala, "Influence of Riboflavin on Growth, Respiration, and Chlorophyll and Protein Contents in Green Gram ( <i>Phaseolus Radiatus Linn.</i> )"; <i>Current Science</i> , 42(16):580-581 (August 1973)		<b>CENTER 1600/2900</b>
	AY	RYLE et al., "The Respiratory Costs of Nitrogen Fixation in Soyabean, Cowpea, and White Clover"; Journal of Experimental Botany, 30(114):145-153 (February 1979)		0/290
	AZ	SCHOTT et al., "Riboflavin Synthases of Bacillus subtilis"; The Journal of Biological Chemistry, 265(8):4204-4209 (March 1990)		8
	ВА	SHANAHAN et al., "Isolation, trace enrichment and liquid chromatographic analysis of diacetylphloroglucinol in culture and soil samples using UV and amperometric detection"; Journal of Chromatography, 606:171-177 (1992)		
	ВВ	SHANAHAN et al., "Liquid chromatographic assay of microbially derived phloroglucinol antibiotics for establishing the biosynthetic route to production, and the factors affecting their regulation"; Analytica Chimica Acta, 272:271-277 (1993)		
	ВС	SONG et al., "Purification of Phytochrome by Affi-Gel Blue Chromatrography; an Effect of Lumichrome on Purified Phytochrome"; Analytical Biochemistry, 117:32-39 (1981)		
	BD	STREIT et al., "Biotin and Other Water-Soluble Vitamins Are Key Growth Factors for Alfalfa Root Colonization by <i>Rhizobium meliloti</i> 1021"; <i>Molecular Plant-MicrobeInteractions</i> , 9(5):330-338 (1996)		
	8E	STRZELCZYK et al., "Synthesis of Auxins from Tryptophan and Tryptophan-precursors by Fungi Isolated from Mycorrhizae of Pine ( <i>Pinus silvestris</i> L.)"; ACTA Microbiologica Polonica, 26(3):255-264 (1977)		
	8F	TAURA et al., "Insertional disruption of the <i>nusB</i> (ssyB) gene leads to cold-sensitive growth of <i>Escherichia coli</i> and suppression of the secY24 mutation"; <i>Mol. Gen. Genet.</i> , 234:429-432 (1992)		
	BG	VOLPIN et al., "Respiratory Elicitors from Rhizobium meliloti Affect Intact Alfalfa Roots"; Plant Physiol., 116:777-783 (1998)		
(A)	вн	WEST et al., "Synthesis of Growth Factors by Rhizobium trifoli"; Nature, No. 3591, pp. 397-398 (August 1938)		

Examiner Signature	CANKLARD	Date Considered	21	24/	5

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. SF 1361100 v1

Unique citation designation number. \* Applicant is to place a check mark here if English language Translation is attached.

Sheet

PTO/SB/08B (10-01)	-

Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Situte for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Complete if Known Application Number 09/831,958 Filing Date November 17, 1999 First Named Inventor Phillips, Donald A. AUG 0 2 2002 **Art Unit** 1651 L. Blaine Lankford **Examiner Name** TECH CENTER 1600/2900 Attorney Docket Number 02307Z-090130US

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
Ud	81	YANAGITA et al., "A Bacterial Riboflavin Hydrolase"; <i>The Journal of Biological Chemistry</i> , 221(2): 593-607 (August 1956)	
$\overline{ \downarrow }$	BJ	ZHANG et al., "Phosphoenolpyruvate Carboxylase Protein Kinase from Soybean Root Nodules: Partial Purification, Characterization, and Up/Down-Regulation by Photosynthate Supply from the Shoots"; Archives of Biochemistry and Biophysics, 343(2):260-268 (July 1997)	

**ECH CENTER 1600/2900** 

|--|

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, OC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO Assistant Commissioner for Patents, Washington, OC 20231. SF 1361100 v1

<sup>1</sup> Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.